

MONTHLY WEATHER REVIEW.

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BOARD OF EDITORS { Mr. Horace E. Smith, Chief Clerk Weather Bureau,
Professors Henry A. Hazen, Thomas Russell, and Charles F. Marvin, and
Mr. Edward B. Garriott, in charge of the Review Room.

INTRODUCTION.

This REVIEW is based on reports for July, 1891, from 2,402 regular and voluntary observers. These reports are classified as follows: 163 reports from Weather Bureau stations; 118 reports from United States Army post surgeons; 1,545 monthly reports from state weather service and voluntary observers; 33 reports from Canadian stations; 179 reports through the Central Pacific Railway Company; 364 marine reports through the co-operation of the Hydrographic Office, Navy Department; marine reports through the "New York Herald Weather Service;" monthly reports from the local services of Alabama, Arkansas, Colorado, Illinois, Indiana, Iowa Weather and Crop Service, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New England, New Jersey, New York, North Carolina, North and South Dakota, Ohio, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, Washington, and Wisconsin, and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used.

CHARACTERISTICS OF THE WEATHER FOR JULY, 1891.

The month was the coolest July on record from the middle-eastern Rocky Mountain slope to the Atlantic coast, and at a majority of stations east of the 100th meridian, except in New England and east New York, the minimum temperature was the lowest ever noted for the season.

At stations on the middle and south Pacific coasts the month was the warmest July on record, and in the interior of the Pacific coast states south of Washington the maximum temperature was the highest ever reported for July.

The maximum temperature rose above 120° in the Colorado Desert, in the eastern part of San Diego county, Cal., and reached 122° at Furnace Creek, Death Valley, Cal.

FROST.

Frost occurred at intervals in New England, New York, Pennsylvania, the upper lake region, Wisconsin, and Minnesota. The frost of the 8th in Wisconsin and upper Michigan, of the 19th and 20th in upper Michigan and the north part of lower Michigan, of the 24th in South Dakota, of the 25th in lower Michigan, of the 28th in Connecticut, and of the 30th and 31st in north lower Michigan was reported injurious to tender vegetation.

PRECIPITATION.

The monthly precipitation was the greatest ever reported for July on the central New Jersey coast, in Arkansas, Indian Territory, south-central Kansas, north-central Montana, south-east Washington, and north-central California, and it was the least ever reported for July in New Mexico and extreme western Texas.

The monthly precipitation was generally in excess of the

July average in the Atlantic and east and west Gulf states, on the eastern slope of the Rocky Mountains, over the northern plateau, the west part of the middle plateau region, and along the Pacific coast between the 35th and 45th parallels; elsewhere it was generally deficient.

STORMS.

Local storms were most frequently reported in the Dakotas, Nebraska, Kansas, Iowa, Michigan, New York, and Pennsylvania. Among the more severe storms were those in the west Gulf states and the lower Mississippi valley on the 5th and 6th, when great damage was done by high water at Galveston, Tex., on the 5th, and ten persons were killed and a number injured by a tornado at Baton Rouge, La., on the 6th; the storm at Superior and West Superior, Wis., on the 16th, when five persons were killed by a falling building; and the tornado in Maryland on the 18th, when five persons were seriously injured.

FLOODS.

Considerable damage was caused along the Missouri River south of Pierre, S. Dak., by high water during the first part of the month. The river cut its banks and changed its channel at several points, causing considerable damage to farm property.

DROUGHT.

Drought prevailed in parts of lower Michigan, South Dakota, Kansas, Texas, Arizona, and Washington. In the early part of the month the weather was very dry in eastern Wisconsin, southern Illinois, southern Indiana, and parts of Kentucky.

ATMOSPHERIC PRESSURE (expressed in inches and hundredths).

The normal distribution of atmospheric pressure over the United States in July is influenced by the high areas of the Atlantic and Pacific oceans, and the low areas of the southern plateau region and northeast British America. Over the east Gulf states and Florida and on the north Pacific coast the

mean pressure generally rises above 30.05, and over the west part of the southern plateau region it falls below 29.85. In the British Possessions north of North Dakota and Montana the mean pressure is generally below 29.90.

For the current month the mean pressure was highest east